

What is claimed is:

1. A stable compound having a molecular formula H_9O_4^+ .
- 2 A method for causing substantially complete dissociation of polyprotic acid in water, said method comprising the steps:
 - (i) subjecting said water to at least one of mechanical agitation and magnetic perturbation;
 - (ii) mixing said polyprotic acid in said water whereby an aqueous polyprotic acid solution is formed;
 - (iii) adding a compound of calcium to water to form a solution of Ca^{2+} ions in water;
 - (iv) subjecting an aqueous solution of Ca^{2+} ions to an electric field arranged to convert said Ca^{2+} ions to Ca^{3+} ions whereby a solution of Ca^{3+} ions is generated;

(v) mixing said solution of Ca^{3+} ions with said aqueous polyprotic solution whereby $\text{Ca}_2(\text{SO}_4)_3$ precipitates in a liquid are formed;

(vi) removing said $\text{Ca}_2(\text{SO}_4)_3$ precipitates from said liquid leaving a remaining liquid.

3 A method for generating H_9O_4^+ , said method comprising the steps in operable order:

(i) subjecting said water to at least one of mechanical agitation and magnetic perturbation;

(ii) mixing said polyprotic acid in said water whereby an aqueous polyprotic acid solution is formed;

(iii) adding a compound of calcium to water to form a solution of Ca^{2+} ions in water;

(iv) subjecting an aqueous solution of Ca^{2+} ions to an electric field arranged to convert said Ca^{2+} ions to Ca^{3+} ions whereby a solution of Ca^{3+} ions is generated;

(v) mixing said solution of Ca^{3+} ions with said aqueous polyprotic solution whereby CaSO_4 precipitates in a liquid are formed;

(vi) Removing said CaSO_4 precipitates from said liquid leaving a remaining liquid;

lowering temperature of said remaining liquid to where a slush is formed, wherein said slush comprises ice and remaining liquid;

(viii) passing said slush through a filter whereby said remaining liquid is separated from said ice;

(ix) subjecting said remaining liquid to distillation whereby free water is removed from said remaining liquid leaving a liquid compound having a molecular formula H_9O_4^+ .

4. The method of claim 3 wherein said step of subjecting said water to magnetic perturbation includes subjecting said water to a field from a monopolar magnet.
5. The method of claim 3 wherein said step of subjecting said water to magnetic perturbation includes subjecting said water to a strong magnetic field gradient.
6. The method of claim 3 wherein said step of subjecting said water to mechanical perturbation includes moving said water through a centrifugal pump.
7. The method of claim 3 wherein said polyprotic acid is sulfuric acid.
- 8 The method of claim 3 wherein said step (iii) includes the step of preparing said aqueous solution of Ca^{2+} ions by mixing a calcium compound in water contained in a non-magnetic mixing tank.
9. The method of claim 8 wherein said calcium compound is selected from a group of compounds which consists of calcium metal turnings, calcium

hydrate, calcium oxide, calcium hydroxide, calcium phosphate dibasic, calcium sulfate, calcium carbonate.

10. The method of claim 8 wherein said step of mixing said calcium compound in water contained in said non-magnetic mixing tank includes the step of subjecting said calcium compound in water to a monopolar magnetic field.

11. The method of claim 8 wherein said step of mixing said calcium compound in water contained in said non-magnetic mixing tank includes the step of subjecting said calcium compound in water to a magnetic field gradient.

12. The method of claim 3 wherein said step (iii) includes the step of chilling said solution of Ca^{2+} ions in water where by solubility of said calcium compound is increased.

13. The method of claim 3 wherein said step (vi) includes the step of allowing said Ca precipitates to settle after which said precipitates are removed by decanting and filtering said solution from said precipitates.

14. The method of claim 3 wherein said step (vi) of adding an anionic surfactant whereby precipitation and settling of precipitates is aided.

15. The method of claim 13 wherein said filter of step (viii) is a twenty mesh screen and step (viii) further includes:

forcing said decanted precipitates with water through a filter press whereby a cake of calcium sulfate is formed, usable as a soil pH modifier.

16. The method of claim 3 wherein ice collected from step (vi) is added to step (v) of a next cycle in the method for generating $H_9O_4^+$.

17. The method of claim 3 wherein said step (ix) includes the step of performing distillation in a low temperature low pressure environment.

18. The method of claim 3 which includes after step (ix), an additional step,

(x) being any one of:

providing hydrogen for a liquid fuel cell;

satisfying the electrolyte requirements in a battery; a battery electrolyte wherein the greater redox potential of the H₉O₄⁺ presents a greater battery voltage.;

replacing mineral acids in pH adjustments whereby accumulation of anions associated with the mineral acids is avoided;

replacing any one of nitric acid and muriatic acids in pretreating steps in electro- and electroless plating;

applying said H₉O₄ compound in biological processes where non reactive properties with organic tissue are required.